

WHAT IS CLAIMED IS:

- Sue
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1. An output device that operates according to data received from a host device, said output device comprising:
- a volatile memory that temporarily stores operating parameter values according to a specific command from said host device;
- a controller that controls said output device based on the operating parameter values stored in said volatile memory;
- a first operating parameter controller that stores into a nonvolatile memory operating parameter data stored in said volatile memory in response to a first command from said host device, said operating parameter data comprising one or more operating parameter values; and
- a second operating parameter controller that stores into said volatile memory operating parameter data stored in said nonvolatile memory in response to a specific input.
- 15 2. The output device as in claim 1, wherein said nonvolatile memory has a plurality of parameter memory areas for storing respective sets of operating parameter data,
- said specific input being a second command from said host device, and
- said second operating parameter controller storing into said volatile memory operating parameter data stored in one of said parameter memory areas, said one parameter memory area being specified by said second command.
- 20 3. The output device as in claim 1, wherein said specific input is one of a power-turning-on signal, a reset signal, and an initialization command,
- said output device further comprising a memory initialization processor for initializing at least the operating parameter storage area of said volatile memory in response to said specific input, and

said second operating parameter controller storing into said volatile memory operating parameter data from said nonvolatile memory after said memory initialization process.

4. The output device as in claim 3, wherein said nonvolatile memory has a 5 plurality of parameter memory areas for storing respective sets of operating parameter data, and

said second operating parameter controller stores into said volatile memory operating parameter data from one of said parameter memory areas, said one parameter memory area being specified by a third command from said host device.

- 10 5. The output device as in claim 1, wherein said second operating parameter controller responds to a lack of operating parameter data in said nonvolatile memory by storing a predetermined default set of operating parameter data into said volatile memory.

- 15 6. The output device as in claim 1, wherein said second operating parameter controller stores predetermined default operating parameter data into said volatile memory in response to a fourth command from said host device.

7. The output device as in claim 1, wherein said nonvolatile memory has a plurality of parameter memory areas for storing respective sets of operating parameter data, and

- 20 said first operating parameter controller stores operating parameter data into one of said parameter memory areas, said one parameter memory area being specified by said first command.

- 25 8. The output device as in claim 1, wherein said first operating parameter controller stores in said nonvolatile memory identification information specified by said first command and having a specific correlation to selected operating parameter data.

9. The output device as in claim 1, wherein said first operating parameter controller determines whether an operating parameter value in a target nonvolatile memory location is equal to the operating parameter data that is to be copied from said volatile memory to said target nonvolatile memory location, and overwrites
5 said operating parameter value only if it is not equal.

10. The output device as in claim 1, further comprising a transmitter for reading operating parameter data from said nonvolatile memory and sending the read data to said host device in response to a fifth command from said host device.

11. The output device as in claim 8, further comprising a transmitter for reading
10 said identification information from said nonvolatile memory and sending the read
identification information to said host device in response to a fifth command from
said host device.

12. An output device control method for controlling an output device that operates according to data received from a host device, said control method comprising:

15 (a) temporarily storing operating parameter values in a volatile memory according to a specific command from said host device;

(b) controlling said output device based on the operating parameter values stored in said volatile memory;

(c) transferring operating parameter data from said volatile memory to a nonvolatile memory in response to a first command from said host device, said operating parameter data comprising one or more operating parameter values; and

(d) transferring operating parameter data from said nonvolatile memory to said volatile memory in response to a specific input.

25 13. The output device control method as in claim 12, wherein said nonvolatile
memory has a plurality of parameter memory areas for storing respective sets of
operating parameter data,

said specific input is a second command from said host device, and

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said step (d) comprises transferring to said volatile memory operating parameter data stored in one of said parameter memory areas, said one parameter memory area being specified by said second command.

5 14. The output device control method as in claim 12, wherein said specific input is one of a power-turning-on signal, a reset signal, and an initialization command, said control method further comprising:

(e) initializing at least the operating parameter storage area in said volatile memory in response to said specific input, wherein

10 step (d) is performed after step (e) and comprises transferring to said volatile memory operating parameter data from said nonvolatile memory.

15 15. The output device control method as in claim 14, wherein said nonvolatile memory has a plurality of parameter memory areas for storing respective sets of operating parameter data, and

step (d) comprises transferring to said volatile memory operating parameter data stored in one of said parameter memory areas, said one parameter memory area being specified by a third command from said host device.

20 16. The output device control method as in claim 12, wherein step (d) comprises storing predetermined default operating parameter data into said volatile memory when no operating parameter data are stored in said nonvolatile memory.

17. The output device control method as in claim 12, wherein step (d) comprises storing predetermined default operating parameter data into said volatile memory in response to a fourth command from said host device.

25 18. The output device control method as in claim 12, wherein said nonvolatile memory has a plurality of parameter memory areas for storing respective sets of operating parameter data, wherein

step (c) comprises transferring said operating parameter data to one of said parameter memory areas, said one parameter memory area being specified by said first command.

19. The output device control method as in claim 12, wherein step (c) comprises
5 storing into said nonvolatile memory identification information specified by said first command in correlation with a corresponding one of said sets of operating parameter data.

20. The output device control method as in claim 12, wherein step (c) comprises
10 determining whether an operating parameter value already stored in said nonvolatile memory equals a corresponding operating parameter value in said volatile memory that is to be saved, and transferring the operating parameter value in said nonvolatile memory only when said values are not equal.

21. The output device control method as in claim 12, further comprising:

15 (f) reading operating parameter data from said nonvolatile memory and sending the read data to said host device in response to a fifth command from said host device.

22. The output device control method as in claim 19, further comprising:

20 (f) reading identification information from said nonvolatile memory and sending the read information to said host device in response to a fifth command from said host device.

23. A control method suitable for a machine-readable data storage medium storing a program of instructions executable by an intermediary machine to perform said control method for interfacing a host machine with an output device, said control method comprising:

25 (a) temporarily storing operating parameter values in a volatile memory according to a specific command from said host device;

(b) controlling said output device based on the operating parameter values stored in said volatile memory;

5 (c) transferring operating parameter data from said volatile memory to a nonvolatile memory in response to a first command from said host device, said operating parameter data comprising one or more operating parameter values; and

(d) transferring operating parameter data from said nonvolatile memory to said volatile memory in response to a specific input.

24. The control method of claim 23, wherein said nonvolatile memory has a plurality of parameter memory areas for storing respective sets of operating 10 parameter data,

said specific input is a second command from said host device, and

said step (d) comprises transferring to said volatile memory operating parameter data stored in a one of said parameter memory areas, said one parameter area being specified by said second command.

15 25. The control method of claim 23, wherein said specific input is one of a power-turning-on signal, a reset signal, and an initialization command, said control method further comprising:

(e) initializing at least the operating parameter storage area in said volatile memory in response to said specific input, wherein

20 step (d) is performed after step (e) and comprises transferring to said volatile memory operating parameter data from said nonvolatile memory.

26. The control method of claim 25, wherein said nonvolatile memory has a plurality of parameter memory areas for storing respective sets of operating parameter data, and

25 step (d) comprises transferring to said volatile memory operating parameter data stored in one of said parameter memory areas, said one parameter memory area being specified by a third command from said host device.

27. The control method of claim 23, wherein step (d) comprises storing predetermined default operating parameter data into said volatile memory when no operating parameter data are stored in said nonvolatile memory.
28. The control method of claim 23, wherein step (d) comprises storing predetermined default operating parameter data into said volatile memory in response to a fourth command from said host device.
29. The control method of claim 23, wherein said nonvolatile memory has a plurality of parameter memory areas for storing respective sets of operating parameter data, wherein
- 10 step (c) comprises transferring said operating parameter data to one of said parameter memory areas, said one parameter memory area being specified by said first command.
30. The control method of claim 23, wherein step (c) comprises storing into said nonvolatile memory identification information specified by said first command in correlation with a corresponding one of said sets of operating parameter data.
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31. The control method of claim 23, wherein step (c) comprises determining whether an operating parameter value already stored in said nonvolatile memory equals a corresponding operating parameter value in said volatile memory that is to be saved, and transferring the operating parameter value in said nonvolatile memory only when said values are not equal.
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32. The control method of claim 23, further comprising:
- (f) reading operating parameter data from said nonvolatile memory and sending the read data to said host device in response to a fifth command from said host device.
- 25 33. The control method of claim 30, further comprising:

(f) reading identification information from said nonvolatile memory and sending the read information to said host device in response to a fifth command from said host device.

34. The control method of claim 23, wherein said data storage medium comprises one of a compact disc, a floppy disk, a hard disk, a magneto-optical disk, a digital video disk, a magnetic tape, and a semiconductor memory.

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